

1.0 Description of the Procedure

Hyperbaric oxygen (HBO) therapy consists of the exposure of the entire body to 100 percent oxygen at pressures greater than one atmosphere absolute (ATA) in accordance with accepted clinical protocols for duration and pressure in a mono- or multi-place pressurized chamber.

2.0 Eligible Recipients

2.1 General Provisions

Medicaid recipients may have service restrictions due to their eligibility category that would make them ineligible for this service.

2.2 Special Provisions

Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) is a federal Medicaid requirement that provides recipients under the age of 21 with medically necessary health care to correct or ameliorate a defect, physical or mental illness or a condition identified through a screening examination. While there is no requirement that the service, product or procedure be included in the State Medicaid Plan, it must be listed in the federal law at 42 U.S.C. § 1396d(a). Service limitations on scope, amount or frequency described in this coverage policy do not apply if the product, service or procedure is medically necessary.

The Division of Medical Assistance's policy instructions pertaining to EPSDT are available online at <http://www.dhhs.state.nc.us/dma/prov.htm>.

3.0 When the Procedure is Covered

HBO therapy is covered for the following conditions:

- Actinomycosis, only as an adjunct to conventional therapy when the disease process is refractory to antibiotics and surgical treatment.
- Acute carbon monoxide intoxication.
- Acute peripheral arterial insufficiency.
- Acute traumatic peripheral ischemia. HBO is an adjunctive treatment to be used in combination with accepted standard therapeutic measures, when loss of function, limb or life is threatened.
- Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management.
- Crush injuries and suturing of severed limbs. HBO as an adjunctive treatment when loss of function, limb or life is threatened.
- Cyanide poisoning.
- Decompression illness.
- Gas embolism.
- Gas gangrene.

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- Meleney ulcers. The use of hyperbaric oxygen in any other type of cutaneous ulcer is not covered.
- Necrotizing soft tissue infections of subcutaneous tissue, muscle and/or fascia in conjunction with standard medical and surgical procedures when loss of function, limb or life is threatened.
- Osteoradionecrosis as an adjunct to conventional treatment.
- Preparation and preservation of compromised skin grafts.
- Soft tissue radionecrosis as an adjunct to conventional treatment.
- Lower extremity wound due to diabetes. The wound is classified as a Wagner Grade III or higher and has failed an adequate course of wound therapy.

The use of HBO therapy is covered as adjunctive therapy only after there are no measurable signs of healing for at least 30 days of treatment with standard wound therapy and must be used in addition to standard wound care. Standard wound care in patients with diabetic wounds includes: assessment of a patient's vascular status and correction of any vascular problems in the affected limb if possible optimization of nutritional status, optimization of glucose control, debridement by any means to remove devitalized tissue, maintenance of a clean, moist bed of granulation tissue with appropriate moist dressings, appropriate off-loading, and necessary treatment to resolve any infection that might be present. Failure to respond to standard wound care occurs when there are no measurable signs of healing for at least 30 consecutive days. Wounds must be evaluated at least every 30 days during administration of HBO therapy. Continued treatment with HBO therapy is not covered if measurable signs of healing have not been demonstrated within any 30-day period of treatment.

4.0 When the Procedure is Not Covered

HBO therapy is not covered when the criteria listed in **Section 3.0** are not met.

4.1 Noncovered Conditions

HBO therapy is not covered for the following conditions:

- acute cerebral edema
- acute or chronic cerebral vascular insufficiency
- acute thermal and chemical pulmonary damage (i.e., smoke inhalation with pulmonary insufficiency)
- aerobic septicemia
- anaerobic septicemia and infection other than clostridial
- arthritic diseases
- cardiogenic shock
- chronic peripheral vascular insufficiency
- congenital conditions, e.g. cerebral palsy, autism, mental retardation
- cutaneous, decubitus, and stasis ulcers
- exceptional blood loss anemia
- hepatic necrosis
- multiple sclerosis
- myocardial infarction

- nonvascular causes of chronic brain syndrome (Pick's disease, Alzheimer's disease, Korsakoff's disease)
- organ storage
- organ transplantation
- pulmonary emphysema
- senility
- sickle cell crisis
- Skin burns (thermal)
- Systemic aerobic infection
- tetanus
- traumatic brain injury

Note: This list is not all inclusive.

4.2 Topical Application

Topical application of oxygen does not meet the definition of HBO therapy and is not covered.

4.3 Replacement Therapy

HBO therapy is not covered as a replacement for other standard successful therapeutic measures.

5.0 Requirements for and Limitations on Coverage

The entire body must be pressurized and 100 percent oxygen inhaled by one of several methods: the environment (within the chamber), hood tent, face mask or endotracheal or tracheostomy tube.

5.1 Prior Approval

Prior approval is required. The following documentation must be submitted with the prior approval request:

- all of the recipient's diagnoses
- date of onset
- conventional treatment history, duration and outcomes of each treatment
- treatment plan, including the treatment duration

The prior approval request must indicate the acceptance of the case by the medical director (or designee) of the HBO treatment facility.

Prior approval is given for an initial period of 30 days. Treatment beyond 30 calendar days requires a second prior approval request.

5.2 Service Limitation

HBO therapy is limited to two sessions per date of service.

6.0 Providers Eligible to Bill for the Procedure

Physicians enrolled in the N.C. Medicaid program who are qualified to perform this service may bill for this service. Facilities qualified to provide this service may bill for this service.

7.0 Additional Requirements

There are no additional requirements.

8.0 Billing Guidelines

Reimbursement requires compliance with all Medicaid guidelines including obtaining appropriate referrals for recipients enrolled in Medicaid managed care programs.

8.1 Claim Type

Physician providers bill professional services on the CMS-1500 claim form. Facilities bill on the UB-92.

8.2 Diagnosis Codes that Support Medical Necessity

Providers must bill the ICD-9-CM diagnoses codes to the highest level of specificity that supports medical necessity.

Disease/Condition	ICD-9-CM
Actinomycosis	039.0 – 039.9
Arterial Gas embolism	958.0; 999.0; 999.1
Arterial insufficiency, Peripheral Acute	444.21 – 444.22; 444.81; 733.40 – 733.49
Carbon monoxide Poisoning, Acute	986
Crush injuries and suturing of severed limbs	925 – 929.9 885.0-887.7; 895.0-897.7; 996.90-996.99
Cyanide poisoning	989.0; 987.7
Decompression Illness	993.3
Diabetic, lower extremity wound	707; 707.1; 707.10; 707.12; 707.13; 707.14; 707.19 These codes must be billed with the appropriate diabetic diagnosis (250.70- 250.83).
Gas gangrene	040.0
Ischemia, Peripheral Traumatic, Acute	444.21 – 444.22; 902.53; 903.0 – 904.9
Meleny ulcers	686.01; 686.09
Necrotizing Fasciitis, Progressive	728.86; 686.0
Osteomyelitis, Chronic refractory	730.1 – 730.19; 730.2
Preparation and preservation of compromised skin grafts	996.52; 996.59
Radionecrosis, Bone	733.40 – 733.49
Mandible	526.89
Soft tissue radionecrosis	909.2; 990

8.3 Procedure Codes

The following codes are covered by the N.C. Medicaid program:

8.3.1 Physician

99183 - Physician attendance and supervision of hyperbaric oxygen therapy, per session

8.3.2 Facility

RC413 – Respiratory Service – Hyperbaric Oxygen Therapy
93.59 - Other immobilization, pressure and attention to wound

8.4 Reimbursement Rate

Providers must bill their usual and customary charges.

9.0 Policy Implementation/Revision Information

Original Effective Date: July 1, 1988

Revision Information:

Date	Section Updated	Change
12/01/03	Section 4.0	Titles were added to the subsections.
12/01/03	Section 4.0	The sentence “HBO therapy is not covered when the medical criteria listed in Section 3.0 are not met.” Was added to this section.
12/01/03	Section 5.0	The section was renamed from Policy Guidelines to Requirements for and Limitations on Coverage.
12/01/03	Section 6.0	A sentence was added to the section stating that providers must comply with Medicaid guidelines and obtain referrals where appropriate for Managed Care enrollees.
12/01/03	Section 8.0	Titles were added to the subsections.
09/01/04	Section 1.0	The word “man rated” was deleted.
09/01/04	Section 3.0	Coverage criteria was added to include lower extremity wound due to diabetes. The wound is classified as a Wagner Grade III or higher and has failed an adequate course of wound therapy.
09/01/04	Section 3.0	The word valuable was deleted.
09/01/04	Section 3.0	Text was added to describe wound care in the diabetic patient with a lower extremity wound.

Revision Information, continued

Date	Section Updated	Change
09/01/04	Section 4.0	Noncovered conditions were expanded to include congenital conditions (e.g., cerebral palsy, autism, mental retardation and traumatic brain injury).
09/01/04	Section 4.0	A disclaimer statement was added to indicate that the list was not all inclusive.
09/01/04	Section 5.0	The word “whole” was replaced with the word “entire.”
09/01/04	Section 6.0	Text was added to include facilities that provide service.
09/01/04	Section 8.0	Text was added to clarify the billing guidelines.
09/01/04	Section 8.1	Text was added to indicate that facilities bill using the UB-92 claim form.
09/01/04	Section 8.2	An ICD-9-CM diagnoses codes table was added.
09/01/04	Section 8.2	Text was added to the ICD-9-CM table for diabetic, lower extremity wound.
09/01/04	Section 8.3	The definition of CPT code 99183 was added.
09/01/04	Section 8.3	Sections 8.3.1 and 8.3.2 were added with specific codes.
9/1/05	Section 2.0	A special provision related to EPSDT was added.
9/1/05	Section 8.0	The sentence stating that providers must comply with Medicaid guidelines and obtain referral where appropriate for Managed Care enrollees was moved from Section 6.0 to Section 8.0.
12/1/05	Section 2.2	The web address for DMA’s EDPST policy instructions was added to this section.